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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of :  
Daniel R. NEAL et al. : Group Art Unit: TBD  
Serial No. NEW : Examiner: TBD  
Filed: 21 April 2004 :  
For: SYSTEM AND METHOD OF MEASURING AND MAPPING THREE  
DIMENSIONAL STRUCTURES

**INFORMATION DISCLOSURE STATEMENT**  
**(SUBMISSION WITH CONTINUATION-IN-PART OR**  
**RULE 1.53(b) CONTINUATION OR DIVISIONAL APPLICATION)**

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Sir:

Pursuant to 37 C.F.R. §§ 1.97 and 1.98, applicant(s) hereby submit(s) an Information Disclosure Statement for consideration by the Examiner.

I. **LIST OF PATENTS, PUBLICATIONS OR OTHER INFORMATION**

The patents, publications or other information submitted for consideration by the Office are listed on PTO-1449 form(s), attached hereto.

II. **REFERENCES PREVIOUSLY CITED OR SUBMITTED**

Pursuant to 37 C.F.R. § 1.98(d), consideration of information listed on the PTO-1449 form(s) is requested since any patents, publications or other information which are listed on the PTO-1449 form(s) but for which copies are not enclosed herewith, were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. § 120:

U.S. Serial Number

U.S. Filing Date

10/419,072  
09/692,483  
10/369,513

21 April 2003  
20 October 2000  
21 February 2003

III. FEES

This Information Disclosure Statement is being filed concurrent with the filing of a continuation-in-part, continuation or divisional patent application; therefore, no fee is required.

If the Examiner has any questions concerning this IDS or requires a copy of any of the references cited but not provided, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 50-0238.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 50-0238 for any additional fee required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Dated: 21 April 2004

<b>INFORMATION DISCLOSURE CITATION</b> <i>(Use several sheets if necessary)</i>	Docket Number (Optional) <b>WFS.006 CIP</b>	Application Number <b>NEW</b>
	Applicant(s) <b>Daniel R. NEAL et al.</b>	
	Filing Date <b>21 April 2004</b>	Group Art Unit <b>TBD</b>

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A	6,199,986	03/13/2001	Williams et al.			
	B	6,299,311 B1	10/09/2001	Williams et al.			
	C	4,725,138	02/16/1988	Wirth et al.			
	D	5,978,053	11/02/1999	Giles et al.			
	E	6,095,651	11/01/2000	Williams et al.			
	F	6,270,221 B1	08/07/2001	Liang et al.			
	G	5,258,791	11/02/1993	Penney et al.			
	H	4,021,102	05/03/1977	Iizuka			
	I	3,819,256	06/25/1974	Bellows et al.			
	J	5,929,970	07/27/1999	Mihashi			
	K	6,271,915 B1	08/07/2001	Frey et al.			

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
L	0 625 332 A2	11/23/1994	European Patent Office			✓	
M	DE 42 22 395 A1	01/13/1994	Germany				✓
N	0 373 788 A2	06/20/1990	European Patent Office			✓	
O	WO 83/02716	08/18/1983	PCT				✓
P	WO 01/89372 A2	11/29/2001	PCT			✓	

**OTHER DOCUMENTS** *(Including Author, Title, Date, Pertinent Pages, Etc.)*

	Q	Geary, Joseph M., Introduction to Wavefront Sensors, SPIE Press, Vol. TT18, copyright 1995, pages 93-95.

EXAMINER	DATE CONSIDERED
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**EXAMINER:** Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)

Docket Number (Optional)

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**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	R	6,271,914 B1	08/07/2001	Frey et al.			

**FOREIGN PATENT DOCUMENTS**

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO
	S	WO 01/78585	10/25/2001	PCT			✓	
	T	WO 01/82228 A2	11/01/2001	PCT			✓	

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

	U	International Search Report printed November 26, 2001, pages 1 and 2.

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EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A	US-6,394,605 B1	5/28/2002	Campin et al.			
	B	US-6,382,795 B1	5/7/2002	Lai, Ming			
	C	US-6,130,419	10/10/2000	Neal, Daniel R.			
	D	US-6,052,180	4/18/2000	Neal et al.			
	E	US-5,936,720	8/10/1999	Neal et al.			
	F	US-5,493,391	2/20/1996	Neal et al.			
	G	US 5,617,157 A	04/1997	Shalon et al.			

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	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO
	G	WO 01/28408 A2	4/26/2001	PCT				

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	H	Brown, et al.; Measurement of the dynamic deformation of a high frequency scanning mirror using a Shack-Hartmann wavefront sensor; SPIE's 46th Annual Meeting International Symposium on Optical Science and Technology 29 July - 3 August 2001; pages 1-9.
	I	Neal et al.; AIAA 98-2701 Shack-Hartmann wavefront sensor testing of aero-optic phenomena; 20th AIAA Advanced Measurement and Ground Testing Technology Conference June 15-18, 1998, pages 1-13.

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INITIAL

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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K

Daniel R. Neal et al.; Characterization of Infrared Laser Systems; SPIE 3437-05 (1998); pages 1-11.

L

Daniel R. Neal et al.; Amplitude and phase beam characterization using a two-dimensional wavefront sensor; SPIE Vol. 2870, 0-8194-2267-3/96; pages 72-82.

M

Daniel R. Neal et al.; Use of beam parameters in optical component testing; 4451, pages 394-405.

N

D.R. Neal et al.; Wavefront sensors for optical diagnostics in fluid mechanics: application to heated flow, turbulence and droplet evaporation; SPIE Vol. 2005, 0-8194-1254-6/93; pages 194-203.

O

Lindlein et al.; Algorithm for expanding the dynamic range of a Shack-Hartmann sensor by using a spatial light modulator array; Optical Engineering, Vol. 40 No. 5 May 2001; pages 837-840.

P

Suzuki et al.; Error analysis of a Shack-Hartmann wavefront sensor; SPIE Vol. 2443, 0-8194-1792-0/95; pages 798-805.

Q

Platt et al.; History and Principles of Shack-Hartmann Wavefront Sensing; Journal of Refractive Surgery, Volume 17, September/October 2001; pages S573-S577.

R

Lindlein, et al.; Experimental results for expanding the dynamic range of a Shack-Hartmann sensor using astigmatic microlenses; Optical Engineering, Vol. 41 No. 2, February 2002; pages 529-533.

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Lindlein et al.; Absolute sphericity measurement: a comparative study of the use of interferometry and a Shack-Hartmann sensor; Optics Letters / Vol. 23, No. 10 / May 15, 1998; pages 742-744.

T

Lindlein et al.; Dynamic range expansion of a Shack-Hartmann sensor by use of a modified unwrapping algorithm; Optics Letters / Vol. 23, No. 13 / July 1, 1998; pages 995-997.

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